

[2] From: CHRIS WEIS 5/15/96 10:26PM (2306 bytes: 41 ln)
To: PETER STEVENSON
Subject: Mercury Exposure Limits

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Pete,

Sorry again to be slow getting back to you. I had to get the computer folks to reload the database before I could access properly from remote.

Anyway, as I indicated over the phone I have confirmed the exposure limit (RfC or "risk reference concentration") for mercury in air and it is 0.0003 mg/M3 or 3E-4 mg/M3.

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The limit is based upon fairly good human occupational data where hand tremors and memory loss was documented in workers exposed 8 hours/day X 5 days/week to 0.025 mg/M3. When this value is adjusted for 24 hour exposure for 7 days/week (residential exposure) the LOEL (lowest observed effect level) becomes 0.009 mg/M3. This is quite low and probably near the quantitation limit on your realtime monitor.

The EPA exposure limit is derived by dividing 0.009 by a factor of ten for sensitive members of the population (infants, elderly, etc.) and again by a factor of 3 because the effects observed (hand tremors and memory loss) do not account for possible developmental or reproductive effects and no data is available for these endpoints. The result is a very low limit of 0.0003 mg/M3.

I still support your strategy of abating the obvious and accessable materials (carpets, clothing, etc.) and then monitoring using the more sensitive 16-18 hour collection technique under realistic conditions once the indoor air has been allowed to return to steady state and people have settled back into their homes. We don't appear to be working with any "sensitive" individuals (infants, elderly, neurologically compromised). And the EPA limit is a level which one could be exposed to over a lifetime without experiencing effects.

If you have any questions or need more detail call me at the Montana office (406.441.1150) I'll be up here til Friday.

Chris